

TITLE 83: PUBLIC UTILITIES  
CHAPTER I: ILLINOIS COMMERCE COMMISSION  
SUBCHAPTER c: ELECTRIC UTILITIES  
PART 466 ELECTRIC INTERCONNECTION OF  
DISTRIBUTED GENERATION FACILITIES

AUTHORITY: Implementing Section 16-107.5 of the Public Utilities Act [220 ILCS 5/16-107.5] and authorized by Sections 16-107.5 and 10-101 of the Public Utilities Act [220 ILCS 5/16-107.5, 220 ILCS 5/10-101].

SOURCE: Emergency rules adopted at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_ for a maximum of 150 days.

**Section 466.10 Scope**

The Illinois Distributed Generation Interconnection Standard applies to generation facilities operated in parallel with an electric public utility distribution company in Illinois and meeting the following criteria:

- a) The nameplate capacity of the distributed generation facility is equal to or less than 10 MW; and
- b) The distributed generation facility is not subject to the interconnection requirements of either the Federal Energy Regulatory Commission (FERC) or the applicable Regional Transmission Organization (RTO) (either Midwest Independent Transmission System Operator, Inc. (MISO) or PJM Interconnection, LLC (PJM)).

**Section 466.20 Interconnection Requirement**

- a) Each electric distribution company shall offer interconnection to generation facilities, within the scope of this Part, on just and reasonable terms and conditions.
- b) For the purposes of compliance with subsection (a), the procedures set forth in Sections 466.30, et seq., are just and reasonable. Any just and reasonable deviation from the procedures set forth in Sections 466.30, et seq., shall not be interpreted as a violation of this Part. For reporting purposes only, each electric distribution company shall disclose by filing on the Commission's website and subsequently posting on its web-site its rationale for utilizing an alternative procedure or practice than those set forth in Sections 466.30, et. seq.

## **Section 466.30 Definitions**

Terms defined in Section 16-102 of the Act shall have the same meaning for purposes of this part as they have under Section 5/16-102 of the Act [220 ILCS 5/16-102], unless further defined in this Part. The following words and terms, when used in this rule, have the following meanings unless the context clearly indicates otherwise:

“Act” means the Public Utilities Act [220 ILCS 5/1-101].

“Adverse system impact” means a negative effect that compromises the safety or reliability of the electric distribution system or materially affects the quality of electric service provided by the electric distribution company (EDC) to other customers.

“Affected system” means an electric system not owned or operated by the electric distribution company reviewing the interconnection request that could suffer an adverse system impact from the proposed interconnection.

“Applicant” means a person (or entity) who has submitted an interconnection request to interconnect a distributed generation facility to an EDC's electric distribution system.

“Area network” means a type of electric distribution system served by multiple transformers interconnected in an electrical network circuit, generally used in large, densely populated metropolitan areas.

“Business day” means Monday through Friday, excluding State and federal holidays.

“Calendar day” means any day, including Saturdays, Sundays and State and federal holidays.

“Certificate of completion” means a certificate, in a form approved by the Illinois Commerce Commission (Commission), that contains information about the interconnection equipment to be used, its installation and local inspections.

“Commissioning test” means tests applied to a distributed generation facility by the applicant after construction is completed to verify that the facility does not create adverse system impacts and performs to the submitted specifications. At a minimum, the scope of the commissioning tests performed shall include the commissioning test specified in IEEE Standard 1547 Section 5.4 “Commissioning tests.”

“Distributed generation facility” means the equipment used by an interconnection customer to generate or store electricity that operates in parallel with the electric distribution system. A distributed generation facility typically includes an electric generator, a prime mover, and the interconnection equipment required to safely interconnect with the electric distribution system or local electric power system.

“Distribution upgrade” means a required addition or modification to the electric distribution system to accommodate the interconnection of the distributed generation facility. Distribution upgrades do not include interconnection facilities.

“Draw-out type circuit breaker” means a switching device capable of making, carrying and breaking currents under normal and abnormal circuit conditions such as those of a short circuit. A draw-out circuit breaker can be physically removed from its enclosure creating a visible break in the circuit. The draw-out circuit breaker must be capable of being locked in the open, draw-out position.

“Electric distribution company” (EDC) means any electric utility subject to the jurisdiction of the Commission.

“Electric distribution system” means the facilities and equipment owned and operated by the EDC and used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which electric distribution systems operate differ among areas but generally operate at less than 100 kilovolts of electricity. "Electric distribution system" has the same meaning as the term "Area EPS," as defined in Section 3.1.6.1 of IEEE Standard 1547.

“Fault current” is the electrical current that flows through a circuit during an electrical fault condition. A fault condition occurs when one or more electrical conductors contact ground or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase. Often, a fault current is several times larger in magnitude than the current that normally flows through a circuit.

“IEEE Standard 1547” is the Institute of Electrical and Electronics Engineers, Inc. (IEEE), 3 Park Avenue New York, NY 10016-5997, Standard 1547 (2003) "Standard for Interconnecting Distributed Resources with Electric Power Systems."

“IEEE Standard 1547.1” is the IEEE Standard 1547.1 (2005)

"Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems."

"Interconnection customer" means a person or entity that interconnects a distributed generation facility to an electric distribution system.

"Interconnection equipment" means a group of components or an integrated system owned and operated by the interconnection customer that connects an electric generator with a local electric power system as that term is defined in Section 3.1.6.2 of IEEE Standard 1547 or with the electric distribution system. Interconnection equipment comprises all interface equipment including switchgear, protective devices, inverters or other interface devices. Interconnection equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.

"Interconnection facilities" means facilities and equipment required by the EDC to accommodate the interconnection of a distributed generation facility. Collectively, interconnection facilities include all facilities and equipment between the distributed generation facility's interconnection equipment and the point of interconnection, including any modifications, additions, or upgrades necessary to physically and electrically interconnect the distributed generation facility to the electric distribution system. Interconnection facilities are sole use facilities and do not include distribution upgrades.

"Interconnection request" means an applicant's request, in a form approved by the Commission, for interconnection of a new distributed generation facility or to change the capacity or other operating characteristics of an existing distributed generation facility already interconnected with the electric distribution system.

"Interconnection study" is any study described in Sections 466.110.

"Lab certified" means a designation that the interconnection equipment meets the requirements set forth in Section 466.60.

"Line section" is that portion of an electric distribution system connected to an interconnection customer's site, bounded by automatic sectionalizing devices and/or the end of the distribution line.

"Local electric power system" means facilities that deliver electric power to a load that is contained entirely within a single premises or group of premises. Local electric power system has the same meaning as that term has as defined in Section 3.1.6.2 of IEEE Standard 1547.

“Nameplate capacity” is the maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer and usually indicated on a nameplate physically attached to the power production equipment.

“Nationally recognized testing laboratory” or “NRTL” means a qualified private organization that meets the requirements of the Occupational Safety and Health Administration's (OSHA) regulations. See 29 CFR 1910.7, *et al.* NRTLs perform independent safety testing and product certification. Each NRTL must meet the requirements as set forth by OSHA in its NRTL program.

“Parallel operation or parallel” means a distributed generation facility is connected electrically to the electric distribution system for longer than 100 milliseconds.

“Point of interconnection” means the point where the distributed generation facility is electrically connected to the electric distribution system. Point of interconnection has the same meaning as the term “point of common coupling” defined in Section 3.1.13 of IEEE Standard 1547.

“Primary line” means an electric distribution system line operating at greater than 600 volts.

“Queue position” means, for each distribution circuit or line section, the order of a completed interconnection request relative to all other pending completed interconnection requests on that distribution circuit or line section. It is established by the date that the EDC receives the completed interconnection request.

“Radial distribution circuit” means a circuit configuration in which independent feeders branch out radially from a common source of supply.

“Scoping meeting” means a meeting between representatives of the applicant and EDC conducted for the purpose of discussing interconnection issues and exchanging relevant information.

“Secondary line” means an electric distribution system line, sometimes referred to as a service line, operating at 600 volts or less.

“Shared transformer” means a transformer that supplies secondary voltage to more than one customer.

“Spot network” means a type of electric distribution system that uses two or more inter-tied transformers to supply an electrical network circuit. A spot network is generally used to supply power to a single customer or a

small group of customers. Spot network has the same meaning as the term "spot network" defined in Section 4.1.4 of IEEE Standard 1547.

“Standard distributed generation interconnection agreement” means a standard interconnection agreement applicable to interconnection requests for distributed generation facilities. See *Illinois Standard Distributed Generation Interconnection Level 1 Interconnection Request Application Form and Conditional Agreement to Interconnect and Standard Agreement for Interconnection of Distributed Generation Facilities with a Capacity Greater than 10 kW but less than or equal to 10 MW* with Attachments 1 through 7.

“UL Standard 1741” means Underwriters Laboratories' standard titled "Inverters Converters, and Controllers for Use in Independent Power Systems," November 7, 2005 edition.

“Witness test” means a verification either by an on-site observation or review of documents that the interconnection installation evaluation required by IEEE Standard 1547 Section 5.3 and the commissioning test required by IEEE Standard 1547 Section 5.4 have been performed. For interconnection equipment that has not been lab certified, the witness test shall also include verification of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and verification of production tests required by IEEE Standard 1547 Section 5.2. All tests verified are to be performed in accordance with the test procedures specified by IEEE Standard 1547.1.

#### **Section 466.40 Technical standards**

The technical standard to be used in evaluating interconnection requests governed by the Illinois Distributed Generation Interconnection Standard is IEEE Standard 1547.

#### **Section 466.50 Interconnection requests**

- a) Applicants seeking to interconnect a distributed generation facility must submit an interconnection request to the EDC that owns the electric distribution system to which interconnection is sought. Applicants must use interconnection request forms approved by the Commission.
- b) EDCs shall specify the fee by level that the applicant must remit to process the interconnection request. The fee must be specified in the interconnection request forms.
- c) Interconnection requests may be submitted electronically if agreed to by the parties.

#### **Section 466.60 General requirements**

- a) When an interconnection request for a distributed generation facility includes multiple energy production devices at a site for which the applicant seeks a single point of interconnection, the interconnection request shall be evaluated on the basis of the aggregate nameplate capacity of the multiple devices.
- b) When an interconnection request is for an increase in capacity for an existing distributed generation facility, the interconnection request shall be evaluated on the basis of the new total nameplate capacity of the distributed generation facility.
- c) EDCs shall designate a point of contact and provide contact information on its website. The point of contact shall be able to direct applicant questions concerning interconnection request submissions and the interconnection request process to knowledgeable individuals within the EDC.
- d) The information that the EDC makes available to potential applicants can include previously existing EDC studies that help Applicants understand whether it is feasible to interconnect a distributed generation facility at a particular point on the EDC's electric distribution system. However, the EDC can refuse to provide the information to the extent that providing it violates security requirements or confidentiality agreements, or it is contrary to law or State or federal regulations. In appropriate circumstances, the EDC may require a confidentiality agreement prior to release of this information.
- e) When an interconnection request is deemed complete, any modification that is not agreed to by the EDC requires submission of a new interconnection request.
- f) When an applicant is not currently a customer of the EDC at the proposed site, the applicant shall provide, upon EDC request, proof of site control evidenced by the applicant's name on a property tax bill, deed, lease agreement or other legally binding contract.
- g) To minimize the cost to interconnect multiple distributed generation facilities, the EDC or the applicant may propose a single point of interconnection for multiple distributed generation facilities located at an interconnection customer site that is on contiguous property. If the applicant rejects the EDC's proposal for a single point of interconnection, the applicant shall pay any additional cost to provide a separate point of interconnection for each distributed generation facility. If the EDC, without written technical explanation, rejects the customer's proposal for a single

point of interconnection, the EDC shall pay any additional cost to provide separate points of interconnection for each distributed generation facility.

- h) EDCs can require that distributed generation facilities have the capability to be isolated from the EDC. For distributed generation facilities interconnecting to a primary line, the isolation shall be by means of a lockable, visible-break isolation device accessible by the EDC. For distributed generation facilities interconnecting to a secondary line, the isolation shall be by means of a lockable isolation device whose status is clearly indicated and is readily accessible by the EDC. The isolation device shall be installed, owned and maintained by the owner of the distributed generation facility and located electrically between the distributed generation facility and the point of interconnection. A draw-out type circuit breaker accessible to the EDC with a provision for padlocking at the draw-out position satisfies the requirement for an isolation device.
- i) The interconnection customer shall allow the EDC to isolate the distributed generation facility. An interconnection customer may elect to provide the EDC access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise accessible to the EDC by installing a lockbox provided by the EDC that allows ready access to the isolation device. The lockbox must be in a location determined by the EDC to be accessible by the EDC. The interconnection customer shall permit the EDC to affix a placard in a location of its choosing that provides clear instructions to EDC operating personnel for accessing the isolation device. If the EDC needs to isolate the distribution generation facility, the EDC shall not be held liable for any damages resulting from the actions necessary to isolate the generation facility.
- j) Any metering required for a distributed generation interconnection must be installed, operated, and maintained in accordance with applicable EDC tariffs and agreements. Any such metering requirements must be identified in the standard distributed generation interconnection agreement executed between the interconnection customer and the EDC.
- k) EDC monitoring and control of distributed generation facilities are permitted only when the nameplate rating is greater than 2 MW. Monitoring and control requirements must be consistent with the EDC's published requirements and must be clearly identified in the interconnection agreement between the interconnection customer and the EDC. Transfer trip shall not be considered EDC monitoring and control when required and installed to protect the electric distribution system or an affected system against adverse system impacts.



- l) The EDC can require a witness test after the distributed generation facility is constructed. The applicant shall provide the EDC at least 15 business days notice of the planned commissioning test for the distributed generation facility. The applicant and EDC shall schedule the witness test at a mutually agreeable time. If the witness test is not acceptable to the EDC, the applicant shall be granted 30 business days to address and resolve any deficiencies. The time period for addressing and resolving any deficiencies may be extended upon the mutual agreement of the EDC and the applicant prior to the end of the 30 business days. An initial request for extension shall not be denied by the EDC; subsequent requests may be denied. If the applicant fails to address and resolve the deficiencies to the EDC's satisfaction, the interconnection request shall be deemed withdrawn. Even if the EDC or an entity approved by the EDC does not witness a commissioning test, the applicant remains obligated to satisfy the interconnection test specifications and requirements set forth in IEEE Standard 1547 Section 5. The applicant shall, if requested by the EDC, provide a copy of all documentation in its possession regarding testing conducted pursuant to IEEE Standard 1547.1.

#### **Section 466.70 Lab-certified equipment**

An interconnection request may be eligible for expedited interconnection review under Section 466.80 if the distributed generation facility uses interconnection equipment that is lab-certified. Interconnection equipment shall be deemed to be lab certified upon establishment of the following:

- a) The interconnection equipment has been successfully tested in accordance with IEEE Standard 1547.1, and it complies with the appropriate codes and standards referenced in Section 466.70(f) below as demonstrated by any NRTL recognized by OSHA to test and certify interconnection equipment; and
- b) The interconnection equipment has been labeled and is publicly listed by such NRTL at the time of the interconnection application; and
- c) The NRTL testing the interconnection equipment makes all test standards and procedures that it used to perform equipment certification available, and, with applicant approval, the test data itself. The NRTL may make this information readily available by publishing it on its web site and by encouraging it to be included in the manufacturer's literature accompanying the equipment; and
- d) The applicant's use of the interconnection equipment falls within the use or uses for which the interconnection equipment was labeled and listed by the NRTL; and

- e) The generator, other electric sources, and/or interface components being utilized are compatible with the interconnection equipment and are consistent with the testing and listing specified by the NRTL for this type of interconnection equipment; and
- f) To meet the requirements for lab certification, interconnection equipment must be evaluated by a NRTL in accordance with the following codes and standards:
  - 1) IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity);
  - 2) UL 1741 Inverters, Converters, and Controllers and Interconnection System Requirement with Distributed Energy Resources, November 7, 2005; and
  - 3) 2008 National Electrical Code, National Fire Protection Agency, (2008).
- g) Lab certified interconnection equipment shall not require further design testing or production testing, as specified by IEEE Standard 1547 Sections 5.1 and 5.2, or additional interconnection equipment modification to meet the requirements for expedited review; however, nothing herein shall preclude the need for an interconnection installation evaluation, commissioning tests or periodic testing as specified by IEEE Standard 1547 Sections 5.3, 5.4 and 5.5 or for a witness test conducted by an EDC.

#### **Section 466.80 Determining the review level**

An EDC shall determine whether an interconnection request should be processed under the Level 1, 2, 3 or 4 procedures by using the following screens:

- a) An EDC shall use Level 1 procedures to evaluate all interconnection requests to connect an inverter-based distributed generation facility when:
  - 1) The applicant filed a Level 1 application; and
  - 2) The distributed generation facility has an nameplate capacity of 10 kW or less; and
  - 3) The customer interconnection equipment proposed for the distributed generation facility is lab certified; and
  - 4) No construction of facilities by the EDC shall be required to accommodate the distributed generation facility.

- b) An EDC shall use Level 2 procedures for evaluating interconnection requests when:
  - 1) The applicant filed a Level 2 application; and
  - 2) The nameplate capacity rating is 2 MW or less; and
  - 3) The interconnection equipment proposed for the distributed generation facility is lab certified; and
  - 4) The proposed interconnection is to a radial distribution circuit; and
  - 5) No construction of facilities by the EDC shall be required to accommodate the distributed generation facility; or
- c) An EDC shall use Level 3 review procedures for evaluating interconnection requests to area networks and radial distribution circuits where power will not be exported based on the following criteria. For interconnection requests to the load side of an area network the following criteria must be satisfied to qualify for a Level 3 expedited review:
  - 1) The applicant filed a Level 3 application; and
  - 2) The nameplate capacity of the distributed generation facility is less than or equal to 50kW; and
  - 3) The proposed distributed generation facility uses a lab certified inverter-based equipment package; and
  - 4) The distributed generation facility uses reverse power relays and/or other protection functions that prevent the export of power into the area network; and
  - 5) The aggregate of all generation on the area network does not exceed the lower of 5% [of an area network's maximum load or 50kW; and
  - 6) No construction of facilities by the EDC shall be required to accommodate the distributed generation facility.
- d) For interconnection requests to a radial distribution circuit, the following criteria must be satisfied to qualify for a Level 3 expedited review:
  - 1) The applicant filed a Level 3 application; and

- 2) The aggregated total of the nameplate capacity of all of the generators on the circuit, including the proposed distributed generation facility, is 10 MW or less; and
  - 3) The distributed generation facility will use reverse power relays or other protection functions that prevent power flow onto the electric distribution system; and
  - 4) The distributed generation facility is not served by a shared transformer; and
  - 5) No construction of facilities by the EDC on its own system shall be required to accommodate the distributed generation facility.
- e) An EDC shall use the Level 4 study review procedures for evaluating interconnection requests when:
- 1) The applicant filed a Level 4 application; and
  - 2) The nameplate capacity of the small generation facility is 10 MW or less; and
  - 3) Not all interconnection equipment or distributed generation facilities being used for the application is lab-certified.

#### **Section 466.90 Level 1 expedited review**

An EDC shall use the Level 1 interconnection review procedure for an interconnection request that meets the requirements specified in Section 466.80(a). An EDC may not impose additional requirements on Level 1 reviews not specifically authorized under this Section unless the applicant agrees.

- a) The EDC shall evaluate the potential for adverse system impacts using the following screens which must be satisfied:
- 1) For interconnection of a proposed distributed generation facility to a radial distribution circuit, the total distributed generation connected to the distribution circuit, including the proposed distributed generation facility, may not exceed 50% of the minimum load normally supplied by the distribution circuit. If minimum load values for the distribution circuit are not available, then the total generation on the distribution circuit, including the proposed distribution generation facility, may not exceed 15% of the maximum load normally supplied by the distribution circuit.

- 2) For interconnection of a proposed distributed generation facility to the load side of spot network protectors, the proposed distributed generation facility shall utilize an inverter-based equipment package. The interconnection equipment that the applicant proposes to use for the distributed generation facility must be lab certified. When aggregated with other generation, the interconnection equipment shall not exceed 5% of the spot network's maximum load or 50 kVa, whichever is less.
  - 3) When a proposed distributed generation facility is to be interconnected on a single-phase shared secondary line, the aggregate generation capacity on the shared secondary line, including the proposed distributed generation facility, shall not exceed 20 kVa.
  - 4) When a proposed distributed generation facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
  - 5) The EDC shall not be required to construct any facilities on its own system to accommodate the distributed generation facility's interconnection.
- b) The Level 1 interconnection must use the following procedures.
- 1) The applicant submits an interconnection request using the appropriate form along with the Level 1 application fee.
  - 2) Within 10 business days after receipt of the interconnection request, the EDC must inform the applicant whether the interconnection request is complete or not. If the request is incomplete, the EDC must specify what materials are missing and the Applicant has 10 business days to provide the missing information or the interconnection request shall be deemed withdrawn.
  - 3) Within 15 business days after the EDC notifies the applicant that its interconnection request is complete, the EDC must verify whether or not the distributed generation facility passes all the relevant Level 1 screens.
  - 4) If the EDC determines and demonstrates that a distributed generation facility does not pass all relevant Level 1 screens, the EDC will provide a letter to the applicant explaining the reasons.

- 5) Otherwise, the EDC shall approve the interconnection request subject to the following conditions:
  - A) The distributed generation facility has been approved by local or municipal electric code officials with jurisdiction over the interconnection;
  - B) A certificate of completion has been returned to the EDC. Completion of local inspections may be designated on inspection forms used by local inspecting authorities;
  - C) The witness test has been successfully completed if required by the EDC; and
  - D) The applicant has signed a standard distributed generation interconnection agreement. When an applicant does not sign the agreement within 30 business days after receipt of the agreement from the EDC, the interconnection request is deemed withdrawn unless the applicant requests to have the deadline extended for no more than 15 business days. An initial request for extension shall not be denied by the EDC; but subsequent requests may be denied.
- 6) If a distributed generation facility is not approved under a Level 1 review, and the EDC's reasons for denying Level 1 status are not subject to dispute, the applicant may submit a new interconnection request for consideration under Level 2, Level 3 or Level 4 procedures.

#### **Section 466.100 Level 2 expedited review**

An EDC shall use the Level 2 review procedure for interconnection requests that meet the Level 2 criteria in Section 466.80(b). An EDC may not impose additional requirements for Level 2 reviews not specifically authorized under this Section unless the Applicant agrees.

- a) The EDC shall evaluate the potential for adverse system impacts using the following screens which must be satisfied:
  - 1) For interconnection of a proposed distributed generation facility to a radial distribution circuit, the total distributed generation connected to the distribution circuit, including the proposed distributed generation facility, may not exceed 50% of the minimum normal load that is supplied to the distribution circuit when the EDC's distribution circuit is configured in a normal manner. If minimum

load values for the EDC's distribution circuit are not available, then the total generation on the EDC's distribution circuit, including the proposed distribution generation facility, may not exceed 15% of the maximum load supplied to the distribution circuit.

- 2) For interconnection of a proposed distributed generation facility to the load side of spot network protectors, the proposed distributed generation facility shall utilize an inverter-based equipment package. The customer interconnection equipment proposed for the distributed generation facility must be lab certified and, when aggregated with other generation, may not exceed 5% of a spot network's maximum load.
- 3) The proposed distributed generation facility, in aggregation with other generation on the distribution circuit, may not contribute more than 25% to the distribution circuit's maximum fault current at the point on the primary line nearest the point of interconnection.
- 4) The proposed distributed generation facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment including substation breakers, fuse cutouts, and line reclosers, or other customer equipment on the electric distribution system to be exposed to fault currents exceeding 90% of their short circuit interrupting capability. The interconnection may not occur under Level 2 if equipment on the EDC's distribution circuit is already exposed to fault currents of between 90% and 100% of the EDC's equipment short circuit interrupting capability. However, if fault currents exceed 100% of the EDC's equipment short circuit interrupting capability even without the distributed generation being interconnected, then the EDC must replace the equipment at its own expense, and interconnection may proceed under Level 2.
- 5) When a customer-generator facility is to be connected to 3-phase, 3-wire primary EDC distribution lines, a 3-phase or single-phase generator shall be connected phase-to-phase.
- 6) When a customer-generator facility is to be connected to 3-phase, 4-wire primary EDC distribution lines, a 3-phase or single phase generator shall be connected line-to-neutral and shall grounded.
- 7) When the proposed distributed generation facility is to be interconnected on single-phase shared secondary line, the aggregate generation capacity on the shared secondary line, including the proposed distributed generation facility, may not exceed 20 kW.

- 8) When a proposed distributed generation facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
  - 9) A distributed generation facility, in aggregate with other generation interconnected to the distribution side of a substation transformer feeding the circuit where the distributed generation facility proposes to interconnect, may not exceed 10 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity.
  - 10) Except as permitted by additional review in Section 466.90(g), the EDC shall not be required to construct any facilities on its own system to accommodate the distributed generation facility's interconnection.
- b) The Level 2 interconnection must use the following procedures:
- 1) The applicant submits an interconnection request using the appropriate form along with the Level 2 application fee.
  - 2) Within 10 business days after receiving the interconnection request, the EDC must inform the applicant whether the interconnection request is complete or not. If the request is incomplete, the EDC must specify what materials are missing and the Applicant has 10 business days to provide the missing information or the interconnection request shall be deemed withdrawn.
  - 3) After an interconnection request is deemed complete, the EDC shall assign a queue position based upon the date that the interconnection request is determined to be complete for the distribution circuit on which the interconnection is to take place. The EDC must then inform the applicant of its queue position.
  - 4) If, after determining that the interconnection request is complete, the EDC determines that it needs additional information to evaluate the distributed generation facility's adverse system impact, it shall request the information. The EDC may not restart the review process or alter the applicant's queue position because it requires the additional information. The EDC can extend the time to finish its evaluation only to the extent of the delay required for receipt of the additional information. If the additional information is not provided



by the applicant within 15 business days the interconnection request shall be deemed withdrawn.

- 5) Within 20 business days after the EDC notifies the applicant it has received a completed interconnection request, the EDC shall:
  - A) Evaluate the interconnection request using the Level 2 screening criteria.
  - B) Provide the applicant with the EDC's evaluation including a written technical explanation. If an EDC does not have a record of receipt of the interconnection request and the applicant can demonstrate that the original interconnection request was delivered, the EDC shall expedite its review to complete the evaluation of the interconnection request within 20 business days of applicant's demonstration.
  - C) The EDC is not obligated to meet the timeline for reviewing the interconnection request as provided for in this section until the EDC has completed its review of all other interconnection requests with a higher queue position.
- c) When an EDC determines that the interconnection request passes the Level 2 screening criteria, or the EDC determines that the distributed generation facility can be interconnected safely and will not cause adverse system impacts, even if it fails one or more of the Level 2 screening criteria, it shall provide the applicant a standard distributed generation interconnection agreement within 5 business days after the determination.
- d) Within 30 business days after receipt of the standard distributed generation interconnection agreement, the applicant shall sign and return the agreement to the EDC. If the applicant does not sign the agreement within 30 business days, the interconnection request shall be deemed withdrawn unless the applicant requests a 15 business day extension in writing. The initial request for extension may not be denied by the EDC. When construction is required under the provisions of Section 466.100, the interconnection of the distributed generation facility shall proceed according to any milestones agreed to by the parties in the standard distributed generation interconnection agreement.
- e) The standard distributed generation interconnection agreement is not final until:
  - 1) All requirements in the standard distributed generation interconnection agreement are satisfied;

- 2) The distributed generation facility is approved by electric code officials with jurisdiction over the interconnection;
  - 3) The applicant provides a certificate of completion to the EDC. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
  - 4) The witness test is successfully completed, if required by the EDC.
- f) Additional review may be appropriate when a distributed generation facility fails to meet one or more of the Level 2 screens. The EDC shall offer to perform additional review to determine whether there are minor modifications to the distributed generation facility or electric distribution system that would enable the interconnection to be made safely and so that it will not cause adverse system impacts. The EDC shall provide the applicant with a nonbinding, estimate for the costs of additional review and the costs of minor modifications to the electric distribution system. The EDC shall undertake the additional review only after the applicant pays for the additional review. The EDC shall undertake the modifications only after the applicant pays for the modifications.
- g) If the distributed generation facility is not approved under a Level 2 review, the EDC shall provide the applicant written notification explaining its reasons for denying the interconnection request. The applicant may submit a new interconnection request for consideration under a Level 4 interconnection review. The queue position assigned to the Level 2 interconnection request shall be retained provided the request is made by the applicant within 15 business days after notification that the current interconnection request is denied.

#### **Section 466.110 Level 3 expedited review**

An EDC shall use the Level 3 expedited review procedure for an interconnection request that meets the criteria in Section 466.80(c) or (d). An EDC may not impose additional requirements for Level 3 reviews not specifically authorized under this section unless the Applicant agrees.

- a) A Level 3 interconnection must use the following procedures:
- 1) The applicant submits an interconnection request using the appropriate form along with the Level 3 application fee.
  - 2) Within 10 business days after receiving the interconnection request, the EDC must inform the applicant whether the interconnection request is complete or not. If the request is incomplete, the EDC must specify what materials are missing and the Applicant has 10

business days to provide the missing information or the interconnection request shall be deemed withdrawn.

- 3) After an interconnection request is deemed complete, the EDC shall assign a queue position to it based upon the date the interconnection request is determined to be complete, and the distribution circuit on which the interconnection is to take place.
- 4) If, after determining that the interconnection request is complete, the EDC determines that it needs additional information to evaluate the distributed generation facility's adverse system impact, it shall request the information. The EDC may not restart the review process or alter the applicant's queue position because it requires the additional information. The EDC can extend the time to finish its evaluation only to the extent of the delay required for receipt of the additional information. If the additional information is not provided by the applicant within 15 business days the interconnection request shall be deemed withdrawn.
- 5) Interconnection requests meeting the requirements set forth in Section 466.80(c) for non-exporting distributed generation facilities interconnecting to an area network shall be presumed to be appropriate for interconnection. The EDC shall process the interconnection request to area networks using the following procedures:
  - A) The EDC shall evaluate the interconnection request under Level 2 interconnection review procedures as set forth in Section 466.100(a) except that the EDC has 25 business days to evaluate the interconnection request against the screens to determine whether interconnecting the distributed generation facility to the EDC's area network has any potential adverse system impacts. However, the EDC is not obligated to meet the timeline for reviewing the interconnection request until such time as the EDC has completed the review of all other interconnection requests with a higher queue position.
  - B) If the Level 2 screens for area networks identify potential adverse system impacts, the EDC may determine at its sole discretion that it is inappropriate for the distributed generation facility to interconnect to the area network under Level 3 review, and the interconnection request is denied. The applicant may submit a new interconnection request for consideration under Level 4 procedures at the queue position assigned to the Level 3 interconnection request if

the request is made within 15 business days of notification that the current application is denied.

- 6) For interconnection requests that meet the requirements of Section 466.80(d) for non-exporting distributed generation facilities interconnecting to a radial distribution circuit, the EDC shall evaluate the interconnection request under the Level 2 expedited review in Section 466.100(a).
- b) For a distributed generation facility that satisfies the criteria in Section 466.110 (a)(5) or (a)(6), the EDC shall approve the interconnection request and provide a standard interconnection agreement for the applicant to sign.
- (c) Within 30 business days after receipt of the standard distributed generation interconnection agreement the applicant shall complete, sign and return the agreement to the EDC. If the Applicant does not sign the standard distributed generation interconnection agreement within 30 business days, the request shall be deemed withdrawn unless the Applicant requests a 15 business day extension in writing. An initial request for extension may not be denied by the EDC. After the standard distributed generation interconnection agreement is signed by the parties, interconnection of the distributed generation facility shall proceed according to any milestones agreed to by the parties in the standard distributed generation interconnection agreement.
- d) The interconnection agreement will not be final until:
  - 1) All requirements in the interconnection agreement are satisfied; and
  - 2) The distributed generation facility is approved by electric code officials with jurisdiction over the distributed generation facility; and
  - 3) The applicant provides a certificate of completion to the EDC; and
  - 4) The witness test is successfully completed, if required by the EDC.
- e) If the distributed generation facility is not approved under a Level 3 review, the EDC shall provide the applicant written notification explaining its reasons for denying the interconnection request. The applicant may submit a new interconnection request for consideration under a Level 4 interconnection review. The queue position assigned to the Level 3 interconnection request shall be retained provided the request is made within 15 business days of notification that the current interconnection request is denied.

## **Section 466.120 Level 4 review**

An EDC shall use the Level 4 study review procedures for an interconnection request that meets the criteria in Section 466.80(e).

- a) The applicant submits an interconnection request using the appropriate form along with the Level 4 application fee.
- b) Within 10 business days after receipt of an interconnection request, the EDC shall notify the applicant whether the request is complete. When the interconnection request is not complete, the EDC shall provide the applicant a written list detailing information required to complete the interconnection request. The applicant has 10 business days to provide the required data or the interconnection request is considered withdrawn. The parties may agree to extend the time for receipt of the additional information. The interconnection request is deemed complete when the required information has been provided by the applicant, or the parties have agreed that the applicant may provide additional information at a later time.
- c) After an interconnection request is deemed complete, the EDC shall assign a queue position to it based upon the date the interconnection request is determined to be complete, and the distribution circuit on which the interconnection is to take place. The queue position of an interconnection request is used to determine the cost responsibility for the facilities necessary to accommodate the interconnection. Any required interconnection studies shall not begin until the EDC has completed its review of all other interconnection requests that have a higher queue position on the same distribution circuit. The EDC shall notify the Applicant about its position in the queue.
- d) After the interconnection request has been assigned to the queue, the following procedures shall be followed in performing a Level 4 study review:
  - 1) By mutual agreement of the parties, the scoping meeting, interconnection feasibility study, interconnection impact study, or interconnection facilities studies provided for in a Level 4 review and discussed in this Section may be waived or combined.
  - 2) If agreed to by the parties, a scoping meeting on a mutually agreed upon date and time will be held, after the EDC has notified the applicant that the Level 4 interconnection request is deemed complete or the Applicant has requested that its interconnection request proceed under Level 4 review after failing the requirements of a Level 2 or Level 3 review. The meeting's purpose is to review

the interconnection request, existing studies relevant to the interconnection request, and the results of the Level 1, Level 2 or Level 3 screening criteria.

- 3) When the parties agree that an interconnection feasibility study shall be performed, the EDC shall provide to the Applicant, no later than 15 business days after the receipt of a complete interconnection request or, if held, the scoping meeting, an interconnection feasibility study agreement, including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study.
  - 4) When the parties agree that an interconnection feasibility study is not required, the EDC shall provide to the applicant, no later than 15 business days after the receipt of a complete interconnection request or, if held, the scoping meeting, an interconnection system impact study agreement, including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study.
  - 5) If the parties agree that neither an interconnection feasibility study nor a system impact study is required, the EDC shall provide to the applicant, no later than 15 business days after receipt of a complete interconnection request or, if held, the scoping meeting, an interconnection facilities study agreement including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study.
- e) The following guidelines shall govern all required interconnection studies:
- 1) An interconnection feasibility study shall include any necessary analyses for the purpose of identifying a potential adverse system impact to the EDC's electric distribution system that would result from the interconnection from among the following:
    - A) Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection.
    - B) Initial identification of any thermal overload or voltage limit violations resulting from the interconnection.
    - C) Initial review of grounding requirements and system protection.
    - D) Description and nonbinding estimated cost of facilities required to interconnect the distributed generation facility to

the EDC's electric distribution system in a safe and reliable manner.

- E) If an Applicant requests that the interconnection feasibility study evaluate multiple potential points of interconnection, additional evaluations may be required. Additional evaluations must be paid for by the Applicant.
  - F) An interconnection system impact study is not required when the interconnection feasibility study concludes there is no adverse system impact, or when the study identifies an adverse system impact, but the EDC is able to identify a remedy without the need for an interconnection system impact study.
  - G) Each party can require that the standard form of interconnection feasibility study agreement approved by the Commission be used. If both parties agree, however, an alternative form can be used.
- 2) An interconnection system impact study evaluates the impact of the proposed interconnection on both the safety and reliability of the EDC's electric distribution system. The study identifies and details the system impacts that result from interconnecting the distributed generation facility without distributed generation facility or electric distribution system modifications. It focuses on potential or actual adverse system impacts identified in the interconnection feasibility study, including those that were identified in the scoping meeting. The study shall consider all other distributed generating facilities that, on the date the interconnection system impact study is commenced, are directly interconnected with the EDC's system, have a pending higher queue position to interconnect to the electric distribution system, or have signed an interconnection agreement.
- A) A distribution interconnection system impact study shall be performed when a potential distribution system adverse system impact is identified in the interconnection feasibility study. The EDC shall send the applicant an interconnection system impact study agreement within 15 business days after transmittal of the interconnection feasibility study report. The agreement must include an outline of the scope of the study and a good faith estimate of the cost to perform the study. The impact study shall include any elements from among the following:
    - i) A load flow study;

- ii) Identification of affected systems;
  - iii) An analysis of equipment interrupting ratings;
  - iv) A protection coordination study;
  - v) Voltage drop and flicker studies;
  - vi) Protection and set point coordination studies;
  - vii) Grounding reviews; or
  - viii) Impact on system operation.
- B) An interconnection system impact study must consider any necessary criteria from among the following:
- i) A short circuit analysis;
  - ii) A stability analysis;
  - iii) Alternatives for mitigating adverse system impacts on affected systems;
  - iv) Voltage drop and flicker studies;
  - v) Protection and set point coordination studies; or
  - vi) Grounding reviews.
- C) The final interconnection system impact study must provide the following:
- i) The underlying assumptions of the study;
  - ii) The results of the analyses;
  - iii) A list of any potential impediments to providing the requested interconnection service; and
  - iv) Required distribution upgrades.
- D) A nonbinding good faith estimate of cost and time to construct any required distribution upgrades.



- C) The parties may use an interconnection impact study agreement as approved by the Commission. If both parties agree, however, an alternative form can be used.
- 3) The interconnection facilities study shall be conducted as follows:
- A) A report shall be transmitted to the applicant with an interconnection facilities study agreement, which includes an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study within 15 business days after completion of the interconnection system impact study.
  - B) The interconnection facilities study shall estimate the cost of the equipment, engineering, procurement and construction work, including overheads, needed to implement the conclusions of the interconnection feasibility study and the interconnection system impact study. The interconnection facilities study shall identify:
    - i) The electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment;
    - ii) The nature and estimated cost of the EDC's interconnection facilities and distribution upgrades necessary to accomplish the interconnection; and
    - iii) An estimate for the time required to complete the construction and installation of the facilities.
  - C) The EDC may agree to permit an applicant to separately arrange for a third party to design and construct the required interconnection facilities. In such a case, when the Applicant agrees to separately arrange for design and construction, and to comply with security and confidentiality requirements, the EDC shall make all relevant information and required specifications available to the Applicant to permit the Applicant to obtain an independent design and cost estimate for the facilities, which must be built in accordance with the EDC's specifications.
  - D) Upon completion of the interconnection facilities study, and after the Applicant agrees to pay for the interconnection facilities and distribution upgrades identified in the interconnection facilities study, the EDC shall provide the

applicant with a standard distributed generation interconnection agreement within 5 business days.

- E) In the event that distribution upgrades are identified in the impact study that must be added only in the event that higher-queued customers not yet interconnected eventually complete and interconnect their generation facilities, the Applicant may elect to interconnect without paying for such upgrades at the time of the interconnection under the condition that it must pay for such upgrades at the time the higher-queued customer is ready to interconnect. If the Applicant does not pay for such upgrades at that time, the EDC will require it to immediately disconnect its Distribution generation facility to accommodate the higher-queued customer.
  - F) The parties may use an interconnection facility study agreement approved by the Commission. If both parties agree, however, an alternative form can be used.
- f) When an EDC determines, as a result of the studies conducted under a Level 4 review, that it is appropriate to interconnect the distributed generation facility, the EDC shall provide the applicant with a standard distributed generation interconnection agreement. If the interconnection request is denied, the EDC shall provide the applicant a written explanation.
  - g) Within 30 business days after receipt of the standard distributed generation interconnection agreement, the applicant shall provide all necessary information required of the applicant by the agreement, and the EDC shall develop all other information required of the EDC by the Agreement. After completing the Agreement with the additional information, the Applicant shall sign and return the agreement to the EDC. If the Applicant does not sign the agreement within 30 business days after its completion, the interconnection request shall be deemed withdrawn unless the applicant requests in writing to have the deadline extended by no more than 15 business days. The initial request for extension may not be denied by the EDC. If the Applicant does not sign the agreement after the 15 business day extension, the interconnection request shall be deemed withdrawn. When construction is required, the interconnection of the distributed generation facility shall proceed according to milestones agreed to by the parties in the standard distributed generation interconnection agreement.
  - h) The standard distributed generation interconnection agreement is not final until:

- 1) The requirements of the interconnection agreement are satisfied; and
- 2) The distributed generation facility is approved by electric code officials with jurisdiction over the interconnection; and
- 3) The applicant provides a certificate of completion to the EDC. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
- 4) The witness test is successfully completed, if required by the EDC.

#### **Section 466.130 Disputes**

- a) A Party shall attempt to resolve all disputes regarding interconnection promptly and in a good faith manner. A Party shall provide prompt written notice of the existence of the dispute, including sufficient detail to identify the scope of the dispute, to the other Party in order to attempt to resolve the dispute in a good faith manner.
- b) An informal meeting between the Parties shall be held within 10 days after receipt of the written notice. Persons with decision-making authority from each Party shall attend such meeting. In the event said dispute involves technical issues, persons with sufficient technical expertise and familiarity with the issue in dispute from each Party shall also attend the informal meeting. If a Party chooses, such a meeting may be conducted by teleconference.
- c) Subsequent to the informal meeting held between the Parties within ten days after written notice of a dispute, a party may seek resolution through complaint or mediation procedures available at the Consumer Services Division (CSD) of the Commission. Dispute resolution will be conducted in an informal, expeditious manner to reach resolution with minimal costs and delay. When available, dispute resolution may be conducted by phone.
- d) Pursuit of dispute resolution may not affect an interconnection applicant with regard to consideration of an interconnection request or an interconnection applicant's position in the EDC's interconnection queue.

#### **Section 466.140 Records**

- a) An EDC shall maintain records specified in this subsection for a minimum of three years:

- 1) The total number of and the nameplate capacity of the completed interconnection requests received, approved and denied under Level 1, Level 2, Level 3 and Level 4 reviews; and
  - 2) The fuel type, total number and the nameplate capacity of distributed generation facilities approved.
  - 3) For purposes of this rule, an explanation of all deviations from Section 466.30 et seq. that have occurred.
- b) An EDC shall provide a public report upon the request of the ICC to the Commission in a format acceptable to the Commission containing the information required in subsection (a) within 90 calendar days after the close of each calendar year.
- c) Each EDC shall retain copies of studies it performs to determine the feasibility of, system impacts of, or facilities required by the interconnection of any distributed generation facility. The EDC shall provide the Applicant copies of any studies performed in analyzing the Applicant's interconnection request upon Applicant request. However, an EDC has no obligation to provide any future Applicants any information regarding prior interconnection requests.